



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

July 1, 2016

Re: Ringler Energy, LLC
Class B Biosolids Site Transfer
NPDES
Morrow County
4IN00204*AD

Mr. Alex Ringler
Ringler Energy, LLC
2279 County Road 156
Cardington, OH 43315

Dear Mr. Ringler:

Ohio EPA received a request on June 30, 2016, from Otte AG, LLC on behalf of Ringler Energy, LLC to transfer the following biosolids beneficial use sites from the Upper Olentangy Reclamation Center biosolids management program to the Ringler Energy biosolids management program:

<u>Field ID</u>	<u>Previous Field ID</u>	<u>Ohio EPA Site #</u>	<u>County</u>	<u>Township</u>
DEO-02-06	DDWT-03	21-00031	Delaware	Oxford

This site, owned and operated by Shady Haven Farms, LLC, is located northwest of the intersection of Steamtown Road and US 42.

A review of this site was conducted by Ohio EPA. Consideration was given to soil and landscape characteristics, isolation distances from residences, geology and ground water conditions, and the proximity to waterways and wells.

The review indicated that this site contains hydrologic group D soils. Please refer to the precipitation prohibitions and restrictions for group D soils found in Ohio Administrative Code (OAC) 3745-40-08(B)(2).

The soil analytical results for this site indicate an average soil phosphorus value of 49 ppm Mehlich III extraction. Please note that OAC 3745-40-08(A)(2)(b) requires that for soils with phosphorus test results greater than 45 ppm Mehlich III and less than or equal to 115 ppm Mehlich III, the agronomic rate shall be the most limiting factor derived from the nitrogen agronomic rate or the multi-year phosphate agronomic rate.

This site is authorized to be included as part of the Ringler Energy, LLC biosolids program. This authorization is subject to conditions contained in both the NPDES permit and OAC 3745-40. Conditions contained in the NPDES permit and OAC 3745-40 may differ. In such cases, the more restrictive conditions from either the NPDES permit or OAC 3745-40 shall govern. Highlights of these conditions are as follows:

1. Biosolids shall not be applied in buffer zones.
2. In accordance with federal/state rules, biosolids may not be applied within 33 feet of surface waters of the state.

3. Biosolids application shall be timed to avoid periods of excessive wetness to help prevent runoff from a site.
4. Records for the application of biosolids on this site shall be maintained in accordance with the requirements found in OAC 3745-40-09(C).

All biosolids beneficially used at this site shall be injected beneath the surface of the ground or immediately incorporated into the soil. Additional isolation distance from surface waters of the state may need to be provided to account for potential runoff and to ensure that the required thirty-three feet isolation distance is maintained. Biosolids that remain on the surface shall be incorporated within six hours.

If you have any questions, please contact me at (614) 644-2150 or via email at betsy.vanwormer@epa.ohio.gov.

Sincerely,



Betsy P. L. VanWormer, P.E.
Environmental Engineer II
Ohio EPA - Division of Surface Water

Cc: Delaware County Health Department
Delaware County Soil and Water Conservation District
Oxford Township Trustees
Shady Haven Farms, LLC

Ec: Kevin Otte, Otte AG, LLC
Brad Stanton, Upper Olentangy Reclamation Center
Isaac A. Robinson, III, Chief, Ohio EPA/CDO



Class B Biosolids
Beneficial Use Site Transfer

Ringler Energy, LLC

Ohio EPA Site # Field ID
21-00031 DEO-02-06



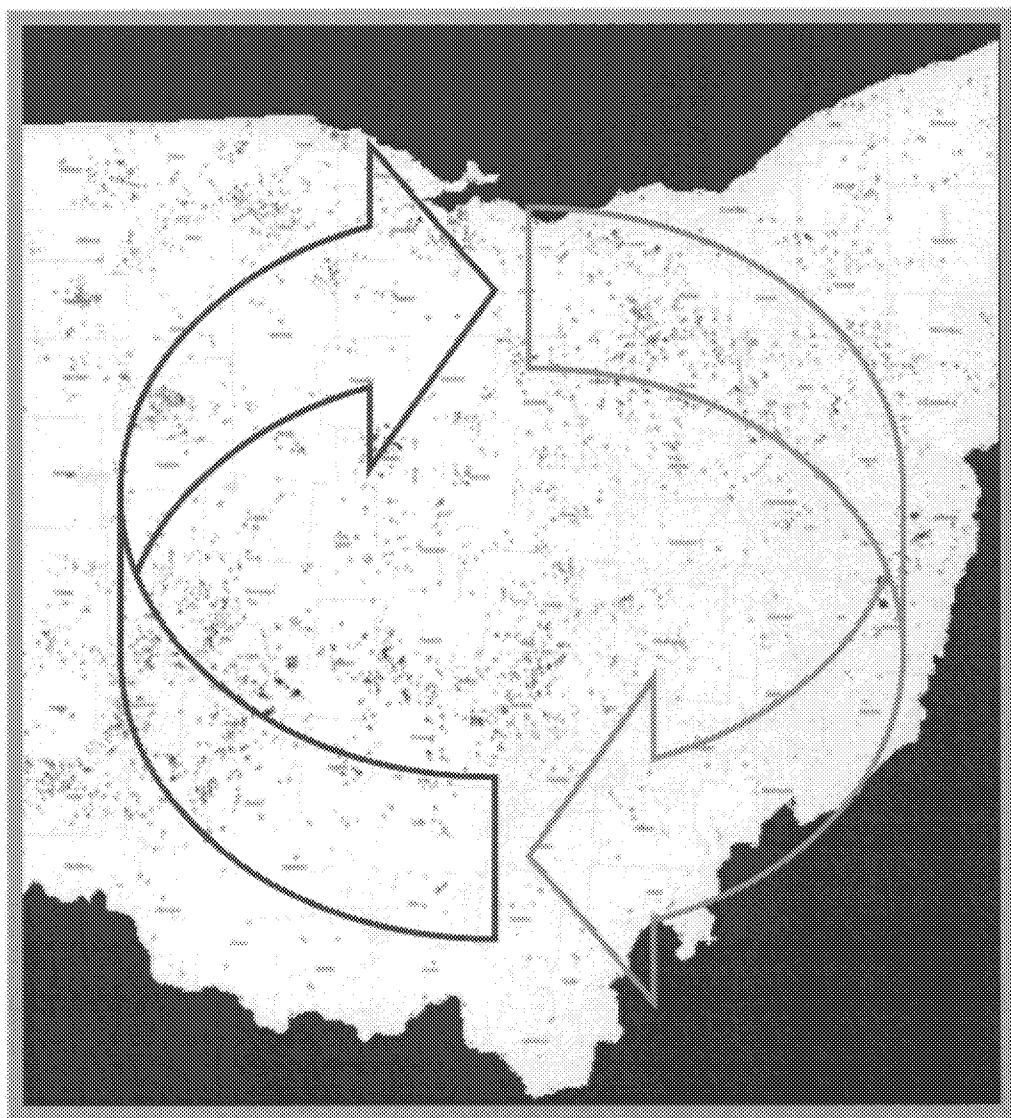
Division of Surface Water
50 W Town Street, Suite 700
Columbus, OH 43228
(614) 644-2130



John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

Division of Surface Water

Application for Transfer Class B Biosolids Beneficial Use Sites



Division of Surface Water
Beneficial Use Site Transfer Request
Class B Beneficial Use Sites

Biosolids Treatment Works Information

Treatment works name: Ringler Energy		
Ohio NPDES permit #: 4IN00204*AD	County: Morrow	
Mailing address: 2278 Co Rd 155		
City: Cardington	State: OH	Zip: 43315
Operator of record: Alex Ringler		
Telephone number: 419.253.5300		
Email address: alex@renenergy.com		

Certification Statement

1. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.
2. I have read and understand Chapter 3745-40 of the Ohio Administrative Code (OAC) and I agree to beneficially use biosolids in accordance with all applicable beneficial use requirements and restrictions established.
3. I agree to only beneficially use biosolids that have satisfied a pathogen reduction alternative and a vector attraction reduction option and have metals concentration below the pollutant ceiling concentrations as established in Chapter 3745-40 of the Ohio Administrative Code.
4. I agree to maintain all applicable records established in Chapter 3745-40 of the Ohio Administrative Code.


Signature

6/29/16
Date

This form shall be signed by the operator of record for the treatment works, be an original signature, not a copy, and must be less than one year old at the time the application for transfer is submitted to Ohio EPA for review.

Division of Surface Water
Beneficial Use Site Transfer Request
Class B Beneficial Use Sites

Previous Biosolids Treatment Works Information

Treatment works name: Upper Olentangy Reclamation Center		
Ohio NPDES permit #: 4PD00004	County: Delaware	
Mailing address: 225 Cherry St.		
City: Delaware	State: OH	Zip: 43015
Operator of record: Brad Stanton		
Telephone number: (740) 203-1900		
Email address: <i>bstanton@delawarerio.net</i>		

Notification Statement

1. I certify that I have been informed of the potential transfer of the biosolids beneficial use sites detailed within the application for transfer.
2. I agree to maintain all applicable records established in Chapter 3745-40 of the Ohio Administrative Code.

Brad Stanton

Signature¹

6/30/16

Date

Original signatures, not copies, must be less than one year old at the time the application for transfer is submitted to Ohio EPA for review.

¹ This form shall be signed by the operator of record for the previous treatment works.

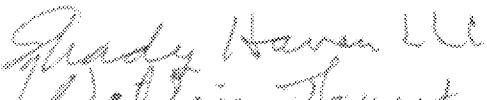
Division of Surface Water
Beneficial Use Site Transfer Request
Class B Beneficial Use Sites

Owner Consent for Beneficial Use

Beneficial use site owner ¹ : Shady Haven Farms, LLC		
Mailing address: 6331 McCurdy Road		
City: Delaware	State: OH	Zip: 43015
Telephone number: 740.524.2337		
Email address:		

Certification Statement

1. I agree to allow biosolids generated by the treatment plant identified on Form AFT-1 to be beneficially used on my property at agronomic rates.
2. I understand that the treatment plant that was previously authorized to beneficially use Class B biosolids on the site(s) identified in this application will no longer be authorized to beneficially use Class B biosolids on the site(s) identified in this application.
3. I agree to allow federal, state and local regulatory staff access to the beneficial use site for the purposes of inspecting and authorizing the beneficial use site, beneficially using biosolids, collecting and analyzing samples from the beneficial use site. I reserve the right to ask the above parties for proper identification at any time.
4. I certify that I am holder of legal title to the property described on application form AFT-4 or am authorized by the holder to give consent for the land application of biosolids and that there are no restrictions to the granting of consent under this form.


Shady Haven LLC
Delton Threets, member 5/30/16
Signature* Date

Original signatures, not copies, must be less than one year old at the time the application for transfer is submitted to Ohio EPA for review.

¹For purposes of this form, "beneficial use site owner" means the person who owns the legal rights to the proposed beneficial use site.

²In the event the owner of the beneficial use site changes, Form AFT-3 must be revised and resubmitted to Ohio EPA.

Division of Surface Water
Beneficial Use Site Transfer Request
Class B Beneficial Use Sites

Beneficial Use Site Operator Consent for Beneficial Use

Beneficial use site operator ¹ : Shady Haven Farms, LLC		
Mailing address: 6331 McCurdy Road		
City: Delaware	State: OH	Zip: 43015
Telephone number: 740.524.2337		
Email address:		

Certification Statement

I agree to be responsible for complying with all applicable beneficial use requirements established in Chapter 3745-40 of the Ohio Administrative Code.



Signature²

6/30/16

Date

Original signatures, not copies, must be less than one year old at the time the application for transfer is submitted to Ohio EPA for review.

¹For purposes of this form, "beneficial use site operator" means the person who plants, grows, harvests or otherwise manages feed crops, fiber crops, food crops or pasture land on the proposed beneficial use site.

²In the event the operator of the beneficial use site changes, Form AFT-4 must be revised and resubmitted to Ohio EPA.

Division of Surface Water
Beneficial Use Site Transfer Request
Class B Beneficial Use Sites

Beneficial User Information

Beneficial user¹: Ringler Energy, LLC

Contact person: Alex Ringler

Mailing address: 461 St. Rt. 61

City: Marengo

State: OH

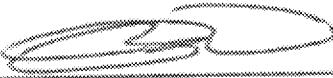
Zip: 43334

Telephone number: 419.253.5330

Email address: alex@renenergy.com

Certification Statement

I agree to be responsible for complying with all applicable beneficial use requirements established in Chapter 3745-40 of the Ohio Administrative Code.


Signature

6/29/16
Date

Original signatures, not copies, must be less than one year old at the time the application for transfer is submitted to Ohio EPA for review.

¹ For purposes of this form, the beneficial user means the person who sprays or spreads Class B biosolids onto the surface of the beneficial use site, injects below the surface of the beneficial use site, or incorporates into the soil of the beneficial use site, for the purpose of providing an agronomic benefit.

² In the event the beneficial user of the beneficial use site changes, Form AFT-6 must be revised and resubmitted to Ohio EPA.

Division of Surface Water
Beneficial Use Site Transfer Request
Class B Beneficial Use Sites

Current Beneficial Use Site Information

Ohio EPA site I.D.: 21-000031	
Field site I.D.: DDWT-03	
County: Delaware	Township: Oxford
Treatment works name: Upper Olentangy Reclamation Center	
Ohio NPDES permit #: 4PD0004	

Date of Last Beneficial Use	Agronomic Rate (dry tons/acre)	Soil Phosphorus			Agronomic Rate Utilized (Check Only One)	
		Date of Soil Analysis	Result (PPM)	Analysis Method (Check Only One)		
2000	Unknown	5/27/2015	13 - 39	<input checked="" type="checkbox"/> Bray-Kurtz P1 <input type="checkbox"/> Mehlich 3	<input type="checkbox"/> Nitrogen <input type="checkbox"/> <250 lb/acre P ₂ O ₅ <input type="checkbox"/> 256 - 500 lb/acre P ₂ O ₅	<input type="checkbox"/> Single-Year P ₂ O ₅ <input type="checkbox"/> Multi-Year P ₂ O ₅ <input type="checkbox"/> P-Index

A copy of the agronomic rate calculation performed for the most recent beneficial use event must be included.

Is this beneficial use site subject to cumulative loading rates (CPLR)?	Pollutant	CPLR to date (lb/acre)
<input checked="" type="checkbox"/> No	Arsenic	
<input type="checkbox"/> Yes If "Yes", the table must be completed.	Cadmium	
	Copper	
	Lead	
	Mercury	
	Molybdenum	
	Nickel	
	Selenium	
	Zinc	

Form AFT-6

Division of Surface Water
Beneficial Use Site Transfer Request
Class B Beneficial Use Sites

New Beneficial Use Site Information

Field site I.D.: DEO-02-06

Latitude: 40° 23' 58.56" N

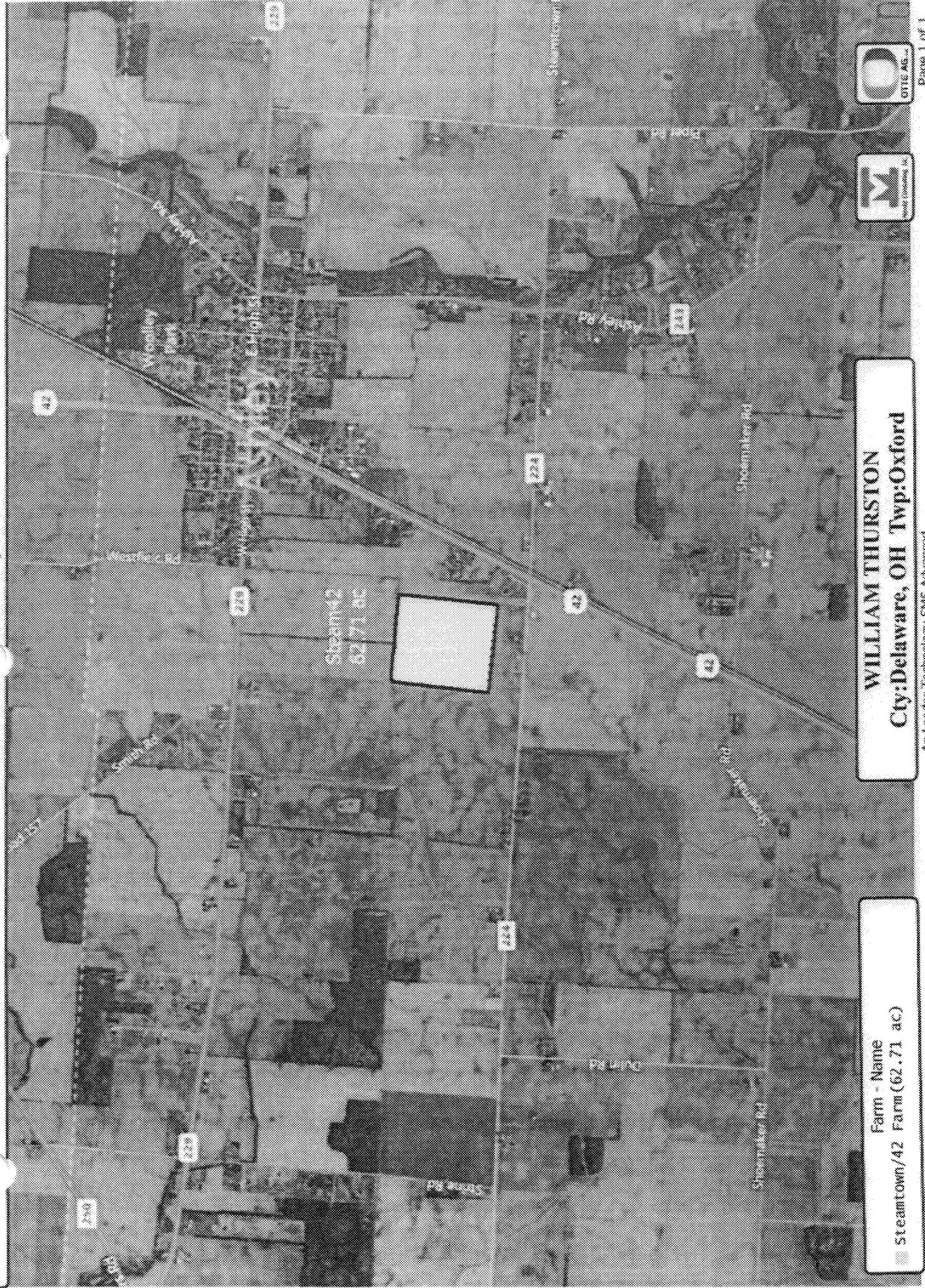
Longitude: 82° 58' 00.62" W

Type of crops to be grown:

Crop Type	Expected Yield
Corn	185
Soybeans	50
Wheat	90
Pasture	
Hay	
Other:	

The application must also include all of the following:

- An aerial map of the beneficial use site that clearly identifies the entrance of the beneficial use site from the nearest road and all applicable isolation distances as established in Chapter 3745-40 of the Ohio Administrative Code;
 - A vicinity road map at or near the township level that clearly identifies the beneficial use site with all roads labeled;
 - A copy of the agronomic rate calculation performed for the most recent beneficial use event on the beneficial use site; and
- The following is correspondence from Lew Wood, Ringler Energy, regarding the ARC: I (Lew Wood) met with Brad Stanton, Public Utilities Director City of Delaware this afternoon and learned that the last application the City was involved in was roughly 15 years ago. Actual land application data was not available.*
- A copy of the most recent soil test results identified in this form.



RINGLER ENERGY, LLC

Farm 7 ac

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RINGLER FARMING, LLC

DEO-0246
62.71 ac

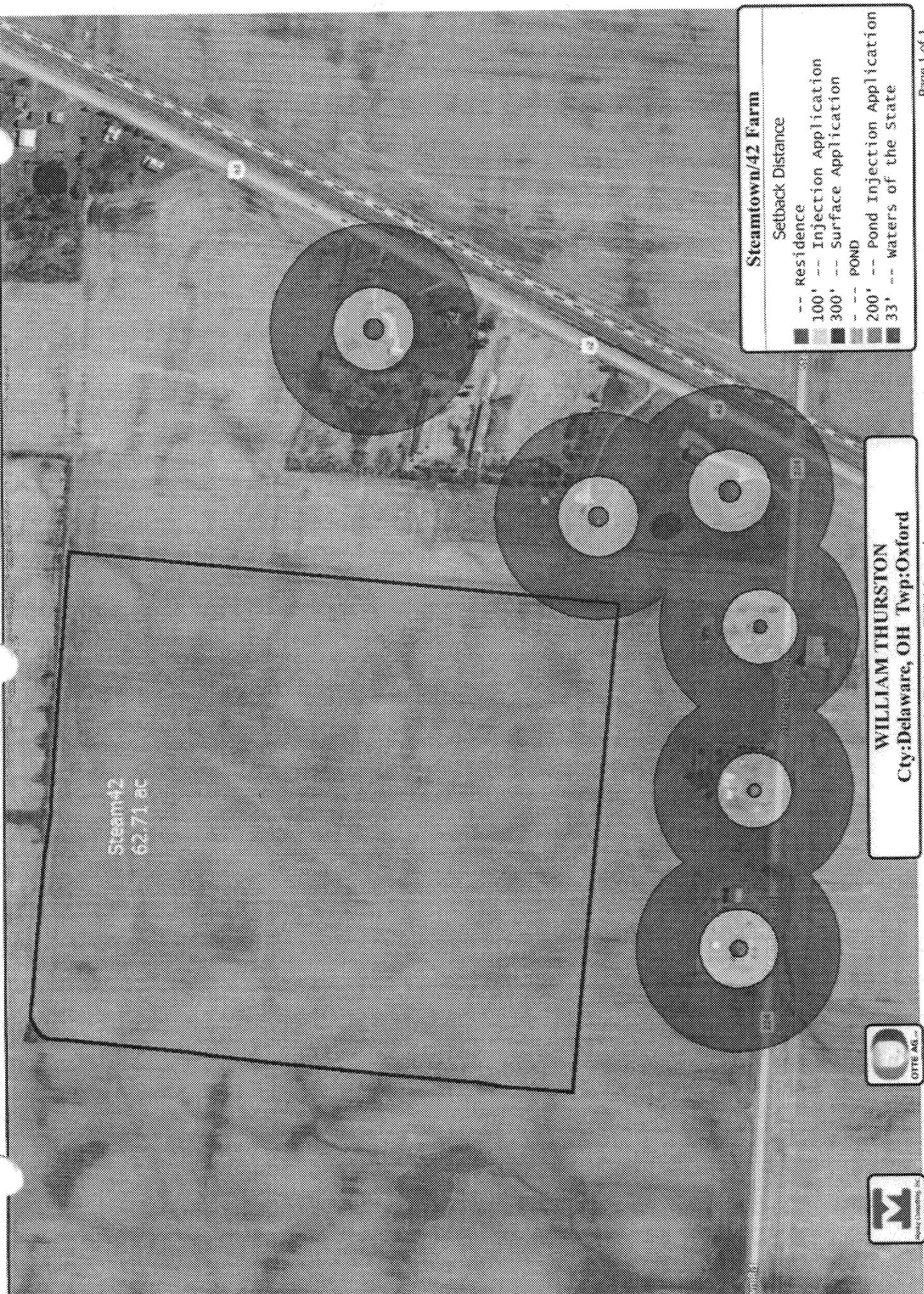
Farm - Name
Steamtown/42 Farm (62.71 ac)

6/10/2016 3:46:33 PM

WILLIAM THURSTON
City:Delaware, OH Twp:Oxford

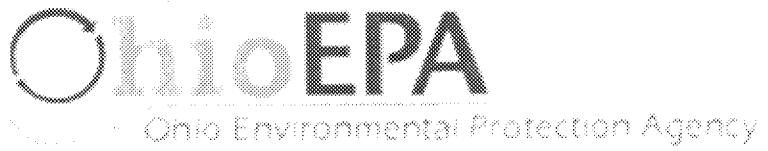
Ag Leader Technology SIS Advanced





Query Results

Query 1				
Layer 1 - Steamtown/42 Farm William Thurston				
Main Layer				
Total area	62.71 ac			
Length	6,598.8 ft			
Count	1			
Description Value Area Length Count				
Farm - Name	Steamtown/42 Farm	62.71 ac	6,598.8 ft	1
Field - Name	Steam42	62.71 ac	6,598.8 ft	1
Layer 2 - Setbacks 2016 Steam42				
Main Layer				
Total area	0.266 ac			
Length	605.75 ft			
Count	1			
Description Value Area Length Count				
Setback Names	Surface	0.266 ac	605.75 ft	1
Setback Distance	300'	0.266 ac	605.75 ft	1



Application for Authorization: Class B Biosolids Beneficial Use Sites



January 2015

ED_014244_00000160-00017

Division of Surface Water
Application for Authorization: Class B Beneficial Use Sites

Biosolids Treatment Works Information

Treatment works name: RINGLER ENERGY, LLC		
Ohio NPDES permit #: 41N00104 *AD	County: MORROW	
Mailing address: 2279 C. Rd. 156		
City: CARDINGTON	State: OH	Zip: 43315
Operator of record: ALEX RINGLER		
Telephone number: 419-258-5300		
Email address (if available): ALEX@RENERGY.COM		

Certification Statement

1. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.
2. I have read and understand Chapter 3745-40 of the Ohio Administrative Code (OAC) and I agree to beneficially use biosolids in accordance with all applicable beneficial use requirements and restrictions established in Chapter 3745-40 of the Ohio Administrative Code.
3. I agree to only beneficially use biosolids that have satisfied a pathogen reduction alternative and a vector attraction reduction option and have metals concentration below the pollutant ceiling concentrations as established in Chapter 3745-40 of the Ohio Administrative Code.
4. I agree to maintain all applicable records established in Chapter 3745-40 of the Ohio Administrative Code.


Signature

2/12/16
Date

This form shall be signed by the operator of record for the treatment works.

Division of Surface Water
Application for Authorization: Class B Beneficial Use Sites

Owner Consent for Beneficial Use

Shady Haven Farms LLC		
Beneficial use site owner: Shady Haven Farms LLC		
Mailing address: 6331 Melroy Rd.		
City: Delaware	State: OH	Zip: 43015
Telephone number: 740 - 524 - 2337		
Email address (if available):		

Certification Statement

1. I agree to allow biosolids generated by the treatment plant identified on Form BUA-1 to be beneficially used on my property at agronomic rates.
2. I agree to allow federal, state and local regulatory staff access to the beneficial use site for the purposes of inspecting and authorizing the beneficial use site, beneficially using biosolids, and collecting and analyzing samples from the beneficial use site. I reserve the right to ask the above parties for proper identification at any time.
3. I certify that I am holder of legal title to the property described on application form BUA-4, or am authorized by the holder to give consent for the land application of biosolids, and that there are no restrictions to the granting of consent under this form.

William Thornton and wife 2/12/16

Signature

Date

For purposes of this form, "beneficial use site owner" means the person who owns the legal rights to the proposed beneficial use site. In the event the owner of the beneficial use site changes, Form BUA-2 must be revised and resubmitted to Ohio EPA.

Division of Surface Water
Application for Authorization: Class B Beneficial Use Sites

Beneficial Use Site Operator Consent for Beneficial Use

Beneficial use site operator: <i>Shady Haven Farms LLC</i>		
Mailing address: <i>6331 McCord Rd.</i>		
City: <i>DeWitt</i>	State: <i>OK</i>	Zip: <i>43015</i>
Telephone number: <i>740-521-2387</i>		
Email address (if available):		

Certification Statement

I agree to be responsible for complying with all applicable beneficial use requirements established in Chapter 3745-40 of the Ohio Administrative Code.

William Thurston Signature 2/12/16 Date

For purposes of this form, "beneficial use site operator" means the person who plants, grows, harvests or otherwise manages feed crops, fiber crops, food crops or pasture land on the proposed beneficial use site. In the event the operator of the beneficial use site changes, Form BUA-3 must be revised and resubmitted to Ohio EPA.

Division of Surface Water
Application for Authorization: Class B Beneficial Use Sites

Beneficial User Information

Beneficial user: RINGER ENERGY, LLC		
Contact person: ALEX RINGER		
Mailing address: 461 61 RT 61		
City: MARENGO	State: OH	Zip: 43334
Telephone number: 419-253-5300		
Email address (if available): ALEX.RINGER@RENERGY.COM		

Certification Statement

I agree to be responsible for complying with all applicable beneficial use requirements established in Chapter 3745-40 of the Ohio Administrative Code.

Signature

2/12/16
Date

For purposes of this form, the "beneficial user" means the person who sprays or spreads Class B biosolids onto the surface of the beneficial use site, injects below the surface of the beneficial use site, or incorporates into the soil of the beneficial use site, for the purpose of providing an agronomic benefit.

Division of Surface Water
Application for Authorization: Class B Beneficial Use Sites

Beneficial Use Site Information

Ohio EPA Site I.D. (Ohio EPA Use Only)

Field site I.D.: DEO-02-06

Beneficial use site location: Steamtown/42 Farm

County: Delaware	Township: Oxford
Latitude: 40° 23' 58.56" N	Longitude: 82° 58' 00.62" W

Total acreage proposed for beneficial use: 62.71

Type of beneficial use to be performed:	Ground slope percent:
Surface application <input checked="" type="checkbox"/>	Less than 15% <input checked="" type="checkbox"/> 15% to 19.9% <input type="checkbox"/>
Injection or immediate incorporation <input checked="" type="checkbox"/>	Greater than 20% <input type="checkbox"/>
Soil pH (s.u.): Avg: 6.3 (3 samples)	Soil phosphorus (lbs/A): Avg: 49 (3 samples)
Bedrock depth (feet): avg. >3ft	Bray Kurtz P1 <input type="checkbox"/> Mehlich 3 <input checked="" type="checkbox"/>

Type of crops to be grown:

Crop Type	Expected Yield
Corn	185
Soybeans	50
Wheat	90
Pasture	
Hay	
Other:	

Soil Types:

Soil Unit Symbol	Soil Unit Name	Hydrologic Soil Group	Flooding Frequency Class
Blg1A1	Blount silt loam, ground moraine, 0 to 2 percent slopes	D	None
Blg1B1	Blount silt loam, ground moraine, 2 to 4 percent slopes	D	None
Blg1B	Pewamo silty clay loam, 0 to 1 percent slopes	C/D	None

Division of Surface Water
Application for Authorization: Class B Beneficial Use Sites

Applicable Isolation distances:

Type of Isolation Distance			
Surface waters of the state	<input type="checkbox"/>	Sinkhole/UIC class V drainage	<input type="checkbox"/>
Occupied building	<input checked="" type="checkbox"/>	Private potable water source	<input type="checkbox"/>
Medical care facility	<input type="checkbox"/>		

Are any endangered species or endangered species habitats located on the beneficial use site?

<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
--------------------------	-----	-------------------------------------	----

If "Yes" is marked, list the types of endangered species or endangered species habitat:

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Have biosolids been beneficially used on the site since July 20, 1993?

<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No
--------------------------	-----	-------------------------------------	----

If "Yes" is marked, list the biosolids generators and years beneficial use occurred:

Generator	NPDES permit No.	Year of Beneficial Use

The application must also include all of the following.

- A soil map of the proposed beneficial use site.
- A frequency flood class map of the proposed beneficial use site.
- An aerial map of the proposed beneficial use site that clearly identifies the entrance of the beneficial use site from the nearest road and all applicable isolation distances as established in Chapter 3745-40 of the Ohio Administrative Code.
- A vicinity road map at or near the township level that clearly identifies the proposed beneficial use site with all roads labeled.
- A copy of the most recent soil test results identified in this form.

RINGLER ENERGY, LLC



Farm - Name
Steamtown/42 Farm(62.71 ac)

2/16/2016 9:53:50 AM



WILLIAM THURSTON
City: Delaware, OH Twp: Oxford

Ag Leader Technology SMS Advanced

RINGLER ENERGY, LLC

DEO 02-06
62.71 ac

Field Name: DEO
Coordinates: 40°

Farm - Name
Steamtown/42 Farm (62.71 ac)

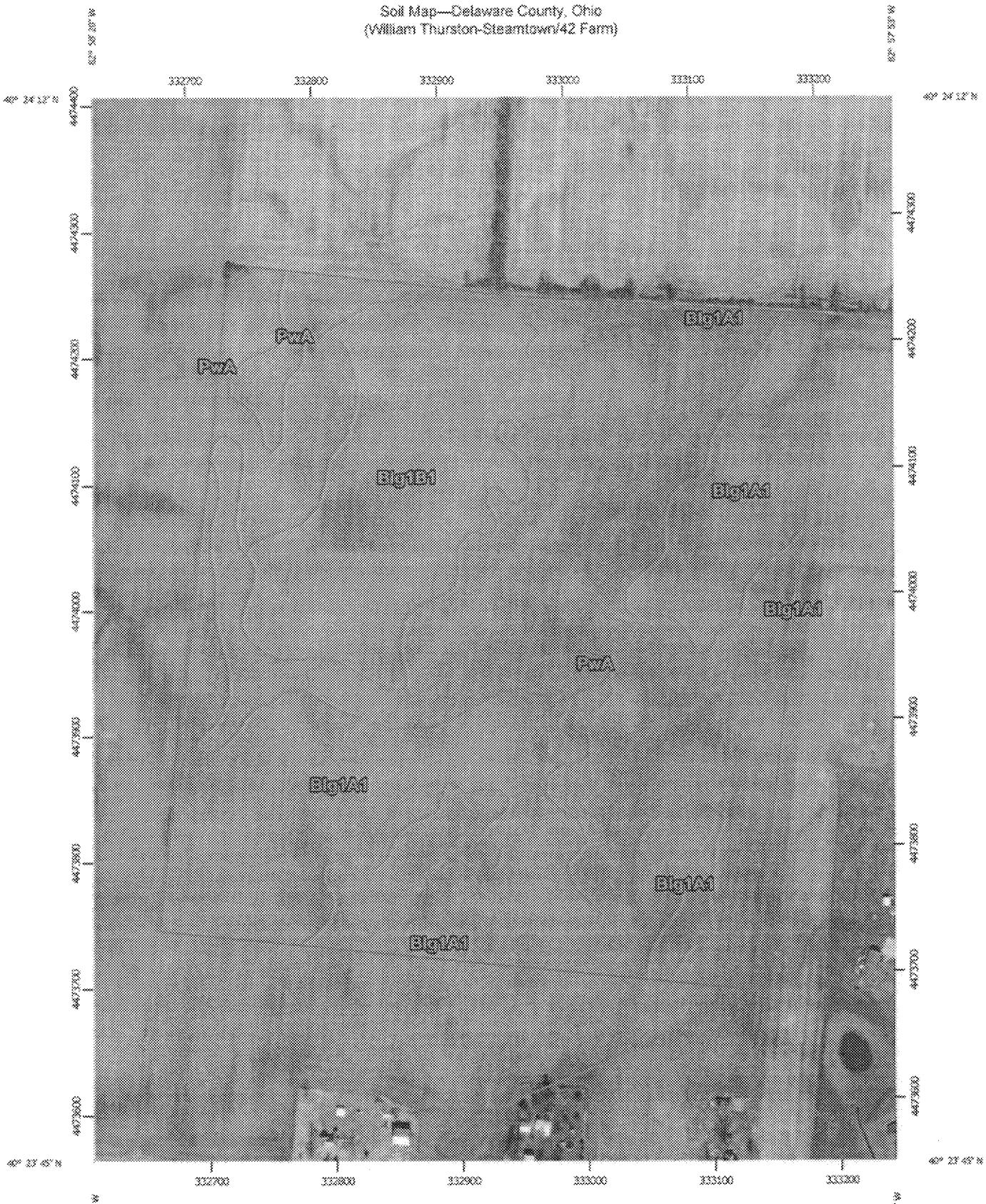
6/10/2016 3:48:33 PM

WILLIAM THURSTON
City:Delaware, OH Twp:Oxford

Ag Leader Technology SMS Advanced

Page 1 of 1

**Soil Map—Delaware County, Ohio
(William Thurston-Steamtown/42 Farm)**



Map Scale: 1:4,110 if printed on A portrait (8.5" x 11") sheet.

Meters

Map projection: Web Mercator Corner coordinates: WGS84 Edge bcs: UTM Zone 17N WGS84



180

Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

2/16/2016
Page 1 of 3

Soil Map—Delaware County, Ohio
(William Thurston Steamtown 42 Farm)

MAP LEGEND

Area of Interest (AOI)			Soil Area
	Area of Interest (AOI)		Stony Spot
	Soil Map Unit Polygons		Very Stony Spot
	Soil Map Unit Lines		Wet Spot
	Soil Map Unit Points		Other
Special Point Features			Special Line Features
	Blowout		Water Features
	Borrow Pit		Streams and Canals
	Clay Spot		Transportation
	Closed Depression		Rails
	Gravel Pit		Interstate Highways
	Gravelly Spot		U.S. Routes
	Landfill		Major Roads
	Lava Flow		Local Roads
Background			Aerial Photography
	Marsh or Swamp		
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misinterpretation of the detail or mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Delaware County, Ohio
Survey Area Data: Version 14, Sep 26, 2015
Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

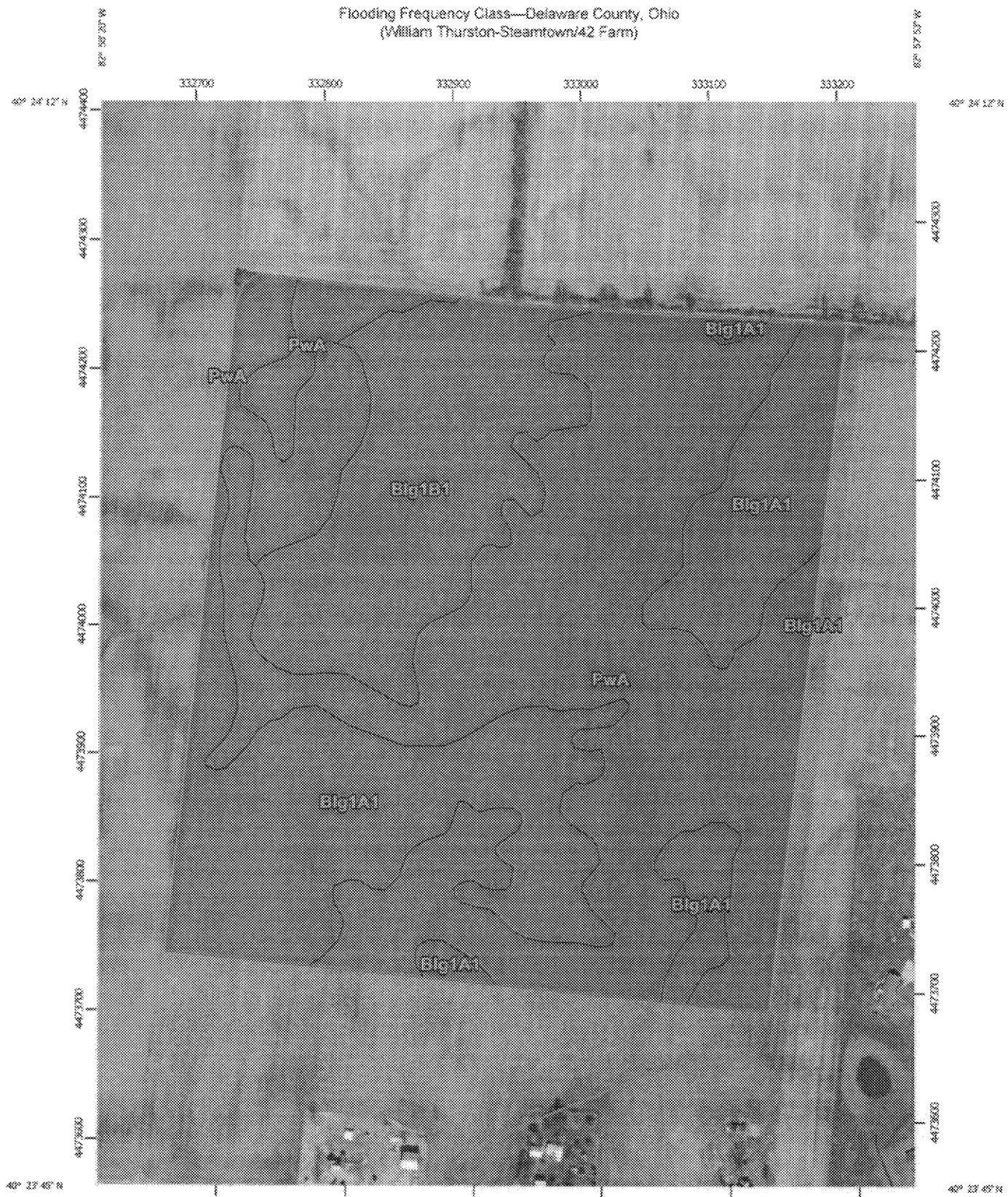
Date(s) aerial images were photographed: Feb 27, 2012—Mar 10, 2012

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Delaware County, Ohio (OH841)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Blgt1A1	Blount silt loam, ground moraine, 0 to 2 percent slopes	22.4	35.7%
Blgt1B1	Blount silt loam, ground moraine, 2 to 4 percent slopes	10.8	17.4%
PwA	Pewamo silty clay loam, 0 to 1 percent slopes	29.4	46.9%
Totals for Area of Interest		62.7	100.0%

Flooding Frequency Class—Delaware County, Ohio
(William Thurston-Steamtown/42 Farm)



Map Scale: 1:4,110 if printed on A portrait (8.5" x 11") sheet.

0 50 100 150 200 250 300 Meters

0 150 300 600 900 Feet

Map projection: Web Mercator. Corner coordinates: WGS84 Edge tox: UTM Zone 17N WGS84



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

2/18/2018
Page 1 of 4

Flooding Frequency Class—Delaware County, Ohio
 (William Thurster-StearnsTown#42 Farm)

MAP LEGEND

Area of Interest (AOI)	<input type="checkbox"/>	Not rated or not available
Soils	<input type="checkbox"/>	Water Features Streams and Canals
Soil Rating Polygons	<input checked="" type="checkbox"/>	Transportation Railroads Interstate Highways
None	<input checked="" type="checkbox"/>	US Routes
Very Rare	<input checked="" type="checkbox"/>	Major Roads
Rare	<input checked="" type="checkbox"/>	Local Roads
Occasional	<input checked="" type="checkbox"/>	Background Aerial Photography
Frequent	<input checked="" type="checkbox"/>	
Very Frequent	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	Not rated or not available	
Soil Rating Lines	<input type="checkbox"/>	
None	<input checked="" type="checkbox"/>	
Very Rare	<input checked="" type="checkbox"/>	
Rare	<input checked="" type="checkbox"/>	
Occasional	<input checked="" type="checkbox"/>	
Frequent	<input checked="" type="checkbox"/>	
Very Frequent	<input checked="" type="checkbox"/>	
<input type="checkbox"/>	Not rated or not available	
Soil Rating Points	<input type="checkbox"/>	
None	<input checked="" type="checkbox"/>	
Very Rare	<input checked="" type="checkbox"/>	
Rare	<input checked="" type="checkbox"/>	
Occasional	<input checked="" type="checkbox"/>	
Frequent	<input checked="" type="checkbox"/>	
Very Frequent	<input checked="" type="checkbox"/>	

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: Web Mercator (EPSG 3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Delaware County, Ohio
 Survey Area Date: Version 14, Sep 26, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Feb 27, 2012—Mar 10, 2012

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Flooding Frequency Class

Flooding Frequency Class— Summary by Map Unit — Delaware County, Ohio (OH041)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Blg1A1	Blount silt loam, ground moraine, 0 to 2 percent slopes	None	22.4	35.7%
Blg1B1	Blount silt loam, ground moraine, 2 to 4 percent slopes	None	10.9	17.4%
PwA	Pewamo silty clay loam, 0 to 1 percent slopes	None	29.4	48.9%
Totals for Area of Interest			62.7	100.0%

Description

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent.

"None" means that flooding is not probable. The chance of flooding is nearly 0 percent in any year. Flooding occurs less than once in 500 years.

"Very rare" means that flooding is very unlikely but possible under extremely unusual weather conditions. The chance of flooding is less than 1 percent in any year.

"Rare" means that flooding is unlikely but possible under unusual weather conditions. The chance of flooding is 1 to 5 percent in any year.

"Occasional" means that flooding occurs infrequently under normal weather conditions. The chance of flooding is 5 to 50 percent in any year.

"Frequent" means that flooding is likely to occur often under normal weather conditions. The chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year.

"Very frequent" means that flooding is likely to occur very often under normal weather conditions. The chance of flooding is more than 50 percent in all months of any year.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: More Frequent

Beginning Month: January

Ending Month: December

Steamtown
Setback



Steamtown/42 Farm

Setback Distance

- Residence
- [dark gray square] -- 100'
- [medium gray square] -- 200'
- [black square] -- 300'
- [white square] -- POND
- [light gray square] -- 33'
- [white square] -- Pond Injection Application
- [white square] -- Surface Application
- [white square] -- Waters of the State

WILLIAM THURSTON
Cty:Delaware, OH Twp:Oxford

Ag Leader Technology SMS Advanced



6/8/2016 1:31:50 PM

Query Results

Query 1				
Layer 1 - Steamtown/42 Farm William Thurston				
Main Layer				
Total area	62.71 ac			
Length	6,598.8 ft			
Count	1			
Description	Value	Area	Length	Count
Farm - Name	Steamtown/42 Farm	62.71 ac	6,598.8 ft	1
Field - Name	Steam42	62.71 ac	6,598.8 ft	1
Layer 2 - Setbacks 2016 Steam42				
Main Layer				
Total area	0.266 ac			
Length	605.75 ft			
Count	1			
Description	Value	Area	Length	Count
Setback Names	Surface	0.266 ac	605.75 ft	1
Setback Distance	300'	0.266 ac	605.75 ft	1

Soil Analysis Report

BILL THURSTON

CENTRAL OHIO FARMERS COOP WALDO B
420 W MAIN ST
FARM
FARMSTEAD FARMINGTON SE TEAMATWIN SW
00111498 TOM CRAWFORD

3 2 1

Sample No.	Lab Number	Lab Date	Lab Number	Lab Date
C, N, CEC	19.8	32.4	32.7	32.7
Org Matter	3.7	4.5	4.4	4.4
20113 984	5.8	6.8	7.0	7.0
Lime Index	6%	6%	7%	7%
P lbs/acre	4.3	7.8	7.8	7.8
K lbs/acre	3.35	3.67	3.67	3.67
Ca lbs/acre	4.288	3.339	3.339	3.339
Mg lbs/acre	6.06	4.86	4.86	4.86
SC049 186/acre				
B lbs/acre				
Ca lbs/acre				
Mg lbs/acre				
Zn lbs/acre				
Ca Sat.%	55.8	59.8	62.8	62.8
Mg Sat. %	13.8	13.8	17.8	17.8
NH4 Sat. %	3.8	3.8	1.8	1.8
Base Sat. %	6.9	7.3	10.0	10.0
Ca/mg	4.2	4.6	4.6	4.6
Mg/K	8.4	8.4	13.7	13.7
Ba lbs/acre				
Y%				
SiO2%				
SiO2-N%				
Part. Sand				
Part. Silt				
Part. Clay				
Texture				

Received: 07-May-15

Reported: 27-May-15

THURSTON

STEAMPUNK/SLP2